HARDCOPY

APRIL FOOLS ISSUE

SUPER ST EXPANSION BOX
FIRST REPORT

SEE STORY INSIDE ☞

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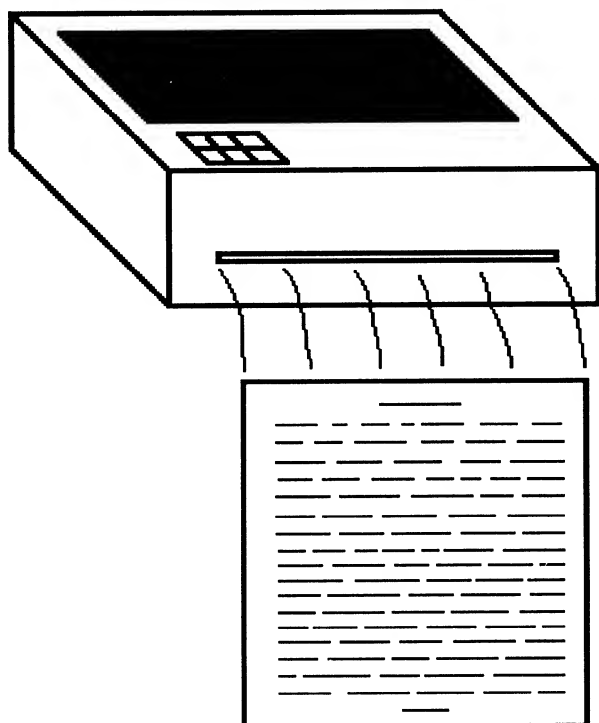
Editorial

by Joe Souder and Tony Smolar

We have an issue literally PACKED with articles that were submitted in the past month even after the contest!!! There are literally hundreds! We have tons of newsletter support! It is great! We had trouble packing it all in the newsletter! Haha!

APRIL FOOLS!

The truth: We have (currently) ONE submission since the contest by an Eboard member.(no complaints, just that you guys do enough!) So, what is the problem? How tough is it? Just send an article in the mail or on the BBS or bring a disk to the meeting (yes, you get the disk back). Simple!

Another thing, is the E-Board situation. Currently, Jace Gill has graciously offered to run another term for membership, and Tony and I are going to keep doing the newsletter. I can not believe the lack of support! The last E-board (and those before) keep trying to do things, but, their fellow members, are unwilling to help out! In order for any club to function, there must be support from everyone, yes, EVERYONE! It seems, the SAME people keep on doing the E-board! And, they do a great job, but, they can not be expected to do it EVERY YEAR! Think about this: If we do not have an E-board, how can we have a club? Why not run? How bad can it be? What it is, is devoting a little of your time to your club. You might even enjoy it! So, give it a shot!

As far as the newsletter goes, we have many new ideas we would like to try out, some of them will require input from our members, such as a Letters to the Editor column and a Question & Answer section, submissions for these can be left at the meetings, uploaded to the BBS, or put in a private message to one of the editors. If you have a burning question that you need an answer for, or want to make your voice heard in the club, here's your chance.

And, as always, we are looking for Articles. If you don't have anything to review, why not try something more light-hearted, maybe something like the ST Emulator article we are running this issue. (There's a challenge to all the aspiring comedians out there). Or maybe you could tell about an unusual use you have found for your

Atari. Whatever you have to say, we'd like to hear it.

Infiltrator

An 8 bit review by Paul Grover

After seven months of abstinence from buying a new program, two trips to Gemini and numerous combinations using four Atari computers and five drives, I found that Infiltrator does not work with the Atari 850 Interface connected and you must have an XE or XL machine in order for it to run properly.

The program is a unique combination of a combat helicopter simulation with arcade type action, until you land and then it becomes an interactive graphics situation adventure. Learning to fly the helicopter and become adept at combat is in itself quite enough for me, as I have as yet to land it successfully. The cockpit screen is very realistic with functional gauges and warning lights. You have three other screens at your disposal. The status screen which informs you of damages, plus the number of missiles, chaff and flares at your command. You also have a tactical map which marks your position and destination, a communications screen which allows you to send and receive messages to and from other aircraft. The controls for your helicopter are mostly joystick with some selected keystrokes.

Once you land and start your mission, you have an inventory screen with assorted items such as sleeping gas, mine detector, gas grenades, explosives, camera, security card, and more. You utilize your inventory of items and your ingenuity to get by guards, security rooms, locked doors, mines, etc. to perform one of the missions in only twenty minutes.

I think Infiltrator is a well thought out and well designed program, using good graphics. It is tough enough to keep your attention for many hours of enjoyment, if you can get over the frustration of crashing your helicopter over and over and over and over.

It is my opinion that Infiltrator was worth the wait and frustration when I finally got it to work. It is the first time I have seen an interactive adventure with an arcade combat flight simulation combined. Overall, Inflitrator is a great idea and a great product.

Infiltrator
Mindscape, Inc.
P.O. Box 1167
Northbrook, IL 60065
1-800-221-9884

President's Column

by John Slaby

First off I have to report to those of you that don't know that Dennis John resigned as president at the February meeting due to personal reasons. Since we only have a few months until the next E-board takes charge it was decided that the duties of President will be distributed among the remaining E-board members and efforts be concentrated on getting enough people to volunteer for the new board.

At the February meeting Dennis John gave a slide demo of Digispec to show the programs real capabilities. Clay Wagner gave a demo of MicroCheck. He and John Douglas prepared a new disk with TurboBasic, that allows for quicker response, and had both single and two disk drive versions. This disk went on sale at the library. Robert Bennett and his daughter gave a demo of News Station that is used for his school's newspaper.

At the March meeting Leon Bonam gave a demo of Party Quiz. John Slaby gave a demo of Ninja Mission, which is available for the eight bit and sixteen bit Atari's, and AirBall. Chris Andrews gave a demo of Marble Madness. A new format was tried after the demos in that both an ST and 800XL were then setup and the members were invited to congregate around the computers and interact. This is an attempt to try and get a "SIG" feel into the meetings, as mentioned as desirable in several of the articles in the last newsletter, and allow for people to come up and show skills/problems on anything they are using and hopefully recieve help if they need it. Even though this was the first meeting with this format the response was very encouraging.

At the next meeting we will also try and extend the IO portion of the meeting to get more "life" into the meetings. The days of the dog and pony show are gone and if this club is to survive, and I believe it will, members will have to contribute at the meetings in both demos and at the "SIG" area. The meeting format will continue to change as the needs and response of the members dictate.

Upcoming meetings: April 9: Demos of Quick Pik PC, Party Wear and more. May 14: Chessmaster 2000 8 bit vs. ST, who will win?? Dr. T Midi software demo. June 13: Flea Market bring all your old stuff to sell. ELECTIONS for E-BOARD.

All meetings will be in the Cafteria at the community college. Doors open at 1:00pm, meetings start at 2:00.
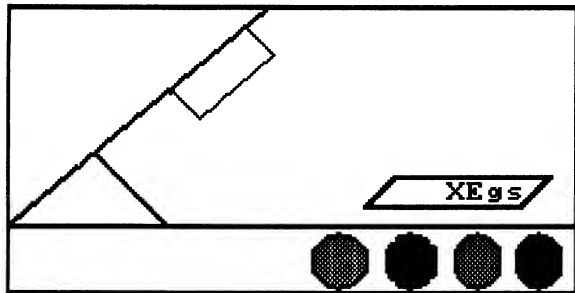
XE Game System

An 8 bit review by Brian Pawlak

In early October while shopping at the Palmer Park Mall, I was pleasantly surprised to discover that the Clover Department Store has placed Atari's new XE Game System on display. Despite the fact that the game system had just been unpacked and was not on-line, Clover permitted me to test the new games and peripheral equipment.

The game system is housed in an attractive XE style oblong box. A monitor jack, video jack, channel selector, power jack, and an Atari SIO peripheral port are located in the front. Two joystick/controller ports are located on the right-hand side, and the keyboard jack is on the left side. The cartridge port has been wisely returned to the top where it resides with the RESET, START, OPTION, SELECT, and POWER buttons. The game Missile Command and the Atari BASIC language are built into the system.

Actually a redesigned 65 XE computer described by Atari as "a slickly designed game system with an incredible 64 kilobytes of memory--that's as much power as a computer," the XE Game System retains XE 65/130's light gray color. A detachable keyboard (which includes the Help key) and large circular pastel colored function buttons on the gameplayer--in shades of light purple (RESET), blue (START), pink (OPTION), yellow (SELECT), gray (HELP), and turquoise (POWER ON/OFF)--identify and indicate a less serious purpose. A matching gray Atari joystick (the same style as the black joystick), Bug Hunt and Flight Simulator II cartridge games, and the XG-1 light gun are included as standard equipment.

All three games have their own manuals, and a separate manual describes the system's game-playing abilities. The XE System Keyboard Manual is almost a direct copy of the XE 65/130 manual and contains a tutorial on BASIC language programming and the system's computer related capabilities.

The Bug Hunt and Flight Simulator manuals state that they are compatible with XE hardware. Eagerly, I plugged in the light gun and Bug Hunt cartridge into a waiting XE 130. The Bug Hunt program booted up without a flaw and showed the inside of a computer motherboard where one had to shoot various insect pests to score points. However the light pistol failed to operate. I was more successful with Flight Simulator II and had the demonstration mode up and running on both an XE 130 and XE 65.

While the designation of game system may make Atarians hard pressed to defend the Atari

XE, XL, and 800/400 as computers and not game-playing machines, the advent of this product means that Atari is supporting the 8-bit computer. If ANALOG's reports coincide with Atari's claims that a vast software library exists for the XE Game System, the 8-bit Atari community should see more reissued as well as new software for sale.

Rather than rely on word of mouth advertising, an Atari television commercial compares the XE Game System with Nintendo's base system and shows Atari's product is a superior choice. Even with its pastel function keys and game title, Atari offers a computer that can do more than just play games. With proper vendor support, the 8-bit computer market can be kept alive for both the children who receive the XE Game System as a gift and parents who discover that their children's "toy" can be transformed into an entry level computer system with Atari disk drives, printers, and applications software.

The Atari XE Game System has appeared in quantity at Clover, Toy's 'R Us, and Kiddie City where it sells for $149.99.

XE Game System
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA 94088
(408) 745-2367

> Ask not what your club can do for you, but what you can do for your club!

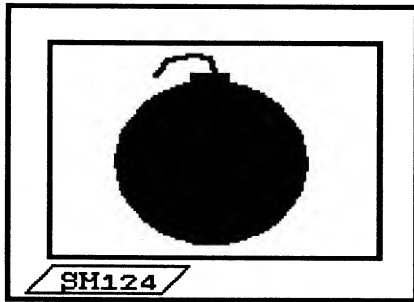# Treasurer's Report

January to March 15, 1988

by John Slaby

Income Items

50/50	27.00
Disk Sales	176.00
Membership	695.00
Raffle	16.00
Vendor Fee	8.00
Total	922.00

Expense Items

Club BBS	53.82
Contest	781.19
Hot Line	14.03
Library	91.95
Membership	22.00
News. Postage	62.40
Newsletter	397.91
Total	1423.30

/SH124/

Will's Stumbles

Well, some of us have ST's now and we're slowly finding out some of the odd features in them.

Not only odd, but sometimes nasty. Great machines that they are, they follow a tradition that started with the first computer ever made:

BUGS

Some are harmless, others can be very nasty. For example, if you ever try to save a program and get the message "disk in drive ? may be damaged, etc.", my advice is to cut your losses and switch off. If you have a blank disk or one with nothing of value on it, you can try to save to that. You may even be lucky! The bug seems to be (I don't know for sure), that if the error is caused by a discrepancy between the 2 FAT's (File Allocation Tables, like the old 8-bit Volume Table of Contents), the stupid beast will write the FAT in memory to every disk you insert, after this. On a good day you could muck up quite a few disks.

WHAT A TURN OFF!

Next thing concerns mainly 1040ST owners, but CAN happen on the 520 ST as well. If you have found, on odd occasions, that you reboot the system and funny (peculiar) things happen, such as "bombs" et al, it is probable that you switched off and then on again too quickly. The 520 ST likes about a second for the charge in the memory chips to "bleed" off, in other words, to clear the memory out. On the 1040 ST with built in power supply, this can (reportedly) take up to 10 seconds!! In most cases, the system doesn't care, but there are occasions when old values, left in memory, can upset things. The first 1K of memory is never cleared on power up or reset! All other memory is zeroed on power up. If the ST finds, on power up, that a certain location in this first 1K still contains a certain value (the magic word indicating memory is still valid), IT WILL NOT ZERO all the rest and trouble usually results.

COULD BE SHOCKING

Another warning for 1040 ST owners and this will apply soon, to new 520 ST owners, with the built in drive and power supply.

The entire power supply INCLUDING THE HEAT SINK, IS LIVE!!! If you feel you have to rummage around inside, don't just switch it off, PULL THE PLUG!!

MEESES

Now, to the care and feeding of mice. Your instruction book tells you how to remove the ball and sponge it clean. Great...however, it's not my balls that get dirty, but the rollers inside, that are activated by the ball. They tend to (quite quickly) pick up a ring of gunk around them, making mouse control irregular. I try to clean them with a cotton bud, making sure no solvent gets on the ball. Failing that, I remove the small screws on the bottom of the

mouse and take off the top. There are no bits to fall out, so don't worry. This give much better access to the rollers. DO NOT try to remove the little rollers and shaft from their housings. You will probably break something.

Rotated your tyres lately?

It may sound odd, but I have found that the small Teflon pads under my mouse, are wearing out! The one under the corner with the button, had actually lost it's special surface. I changed it with the one in the opposing corner and now THAT is showing extreme wear. I might be due for some retreads soon. I do probably use it more than most people (at the moment, approximately 70-75 hours a week), but it does mean that, eventually, you'll get the same. The pads are stuck on with pressure sensitive adhesive and can be fairly easily removed and stuck back on.

Reprinted from QACE Sept/Oct 87
Queensland Atari Computer
    Enthusiasts
Acacia Ridge, Qld, Australia

Super ST

Expansion

First Report

I recently had the opportunity to view what I believe to be the most exciting new development for the Atari ST in recent months. It was Flugel Bros., Inc.'s Super ST expansion box.

Located in an old warehouse a short distance from beautiful downtown Moonachie, NJ. Flugel Bros. combination world headquarters & assembly plant was impressive. Here a small handful of employees have spent the last two years developing the Super ST expansion among other soon to be announced items.

What does the box do? Well to start it comes with a 20 meg hard drive. Others can be added through a port on the back. Additional space is available in the box for 5 1/4" half height drives. Why the 5 1/4" drives? Well the Super ST is also a computer emulator. This is accomplished by modules plugged into sockets located inside the box. Up to four can be installed inside the box and software selected. An additional socket is located on the back of the box.

What does it emulate? The modules that will be available at release time include:
Apple II, Macintosh, IBM AT, IBM PC jr., Commodore PET, Commodore 64, Commodore 128, Amiga, CPM, TRS-80 (all models), and Timex/Sinclair 1000.

Modules scheduled for release before 1st quarter of 1989 include:
Sun Workstation, Cado Cat, and Cray 2.

If you noticed as I did that the Atari XE wasn't represented and wondered why. The response from the management was "We had a hard time getting the gun to work with Bug Hunt. And besides it would only play the disk based games. So we canceled the project."

The back of the box is loaded with sockets to support other monitors (needed for some

emulations), external card boxes, etc. A whole range of accessory cards include BSR control, robotics control, and weather station control interface's just to name a few.

I've just scratched the surface on what the box can do. Now I suppose your interested in how much this all costs. Well to start suggested retail for the basic box is $595.00 with 20 meg hard drive. It's slightly more for larger drives. Emulation modules cost $49.95 each.

Now, after reading this I'm sure you're on the edge of your seat saying "when can I get it?". Well you're in luck. The boxes should be in dealer showrooms by the time you read this.

Happy April 1st.

Last Hacks:

ST Emulator for 8 bit?

by D.F. Neff [MACE]

Reprinted from the Michigan Atari Magazine, Jan. 88

Last year the Atari community waited while Atari Corporation fought to prevent the release of the 8 bit emulator for the ST. This show of resistancemay have been just a smokescreen to hide a secret research project from the user groups! If we look back at what was occuring, and read between the lines, all evidence points to the same conclusion: Atari is developing an ST emulator for the 8 bit line!

THE CLUES

First, Atari began selling stock to the public. Jack Tramiel said he was doing this to get money to pay some bills. Now, Jack has lots more money than you or I have and we don't need to sell stock to pay our bills. But Jack is a nice guy, so we won't ask what he really planned to do with the money.

Second, Atari repeatedly says that they are going to continue to support the 8-bit machines. I've never heard them say they're going to support the 16-Bit machines though! That sure looks ominous for the 16-bit future.

Third, after a weak fight to prevent the release of the 8-bit emulator, Atari allowed it to be released to a disappointed public. The emulator was a mere shadow of its prerelease image.

Was Atari's resistance to the emulator's release just a smokescreen to divert attention from the expensive research being done on the ST-emulator?

THE MOTIVE

When Jack Tramiel bought Atari from Warner, he recieved thousands of brand new 8-bit machines, already built, just sitting in warehouses. Now, consider that when Atari sells you an ST, they have to build it, and that costs lots of money. But if they had n ST emulator on disk, they could just give you an 8-bit machine, with the emulator disk, for the price the price of an ST. Since they aleady have the machine,

the only cost to Atari is 23 cents for the disk! The term "Gross Profit" takes on a whole new meaning in this scenario.

PROOF

When the 8-bit emulator was demonstrated, Atari quickly pointed out that the 8-bit software was running half-speed, at best, in the emulation mode on the ST. It was another smokescreen to prevent us from realizing the obvious: the ST can only run half as fast as an 8-bit!

It's logical that any 16-bit machine will run more slowly than an 8-bit machine. Let me use an analogy of human speech to demonstrate that. If I start throwing 16-letter words at you, our conversation will proceed very slowly while you try to figure out what I'm saying. In fact, you'd probably have to keep refering to a dictionary to figure out the 16-letter words I'm using. Big words just slow things down.

However, if I talk to you in 8-letter words our conversation will take place much faster and end more quickly. It's no wonder that 8-bit machines can run faster than a 16-bit ST.

At this point ST owners are probably thinking that the ST files are too long to fit into the normal 8-bit memory. Well, most of the room used by an ST file is for the Dictionary. That's right, the ST doesn't understand those 16-bit words and has to look them up in the dictionary. Once you've stripped the dictionary from an ST file, it'll probably fit in an unmodified 400!

A public domain vaporware program called TICA (Tongue in Cheek Algorithem) Translates each 16-bit word into two 8-bit words. All timing loops are lengthtned, during the conversion by TICA, since the ST program will be running twice as fast on the 8-bit machine.

ST graphics conversions are a problem. Users of the 8-bit machines can choose from a field of graphics screens which range from 0 to 32. ST users can choose only High, Medium, or Low (like a cheap clothes dryer). TICA changes all ST graphics to 8-bit Graphics 0 so you can see the individual pixels. That eliminates one of the most annoying shortcomings of ST graphics -- all the pictures look like photographs. Who's going to believe you created that picture on your computer if they can't see the pixels?

CONCLUSION

It all adds up to the same thing -- Atari is coming out with an ST emulator for the 8-bit and stop production of the ST line. Still have doubts? Consider this then: why does Antic, the magazine respected and loved by user groups and Sysops nationwide, publish their ST programs on an 8-bit disk?

Hints, Tricks, Tips
And Other Nasty Creatures

by Tony Smolar

Welcome to our first installment of Hints, Tricks, and Tips. Each month in this column I will present Helpful Hints, for both the 8-bit and ST, which I have uncovered from other sources. Hopefully they will help you sort out some problems you may be having, or prevent you from having these problems in the first place.

8-BIT

If you want to add more than two drives, and are using DOS 2 or 2.5, you will probably find that the computer won't recognise drives 3 or 4. What the drive instructions don't tell you to do is change the DRVBYT drive configuration. To do this all you have to do is boot with DOS, go to BASIC type POKE 1802,7 for three drives or POKE 1802,15 for four, if you use a Ram Disk then these settings should be POKE 1802,135 or POKE 1802,143 for 3 or 4 drives, respectivly. After you do this go to DOS and save the

configuration with the H function.

The 130XE is supposed to be compatible with the XL models, but I have found that at least one program, One on One, by Electronic Arts, won't load properly on the 130XE even though it works perfectly on the XL's. To fix this problem you will need an Atari translator disk (The "Superior" Fix XL won't work here). Boot the Translator Disk, then Boot One on One. When it stops loading, hit the Reset and Option Key, this time the program should work normally.

ST

Having probems loading certain commercial programs on your ST? The problem may not be in the software but in the disk drive. Atari used to use an 82 track drive mechanism in their disk drives but have since switched to 80 track mechanisms. The extra two tracks were never meant to be used, but why should that stop anyone from doing it? Some earlier programs such as Brattacus, have a protection scheme which involves the 82 sector format. This means they won't work on 80 track drives. If you don't have an 82 track drive, or if you have a 520STfm, the best thing to do is to get in touch with the manufacturer and see if they can come up with a remedy.

> If you have any hints, give them to either of the editors at the meeting or leave mail on the Help Key II.
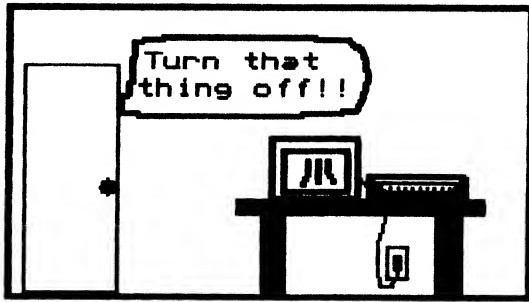
Zap...Zap...Nothing

by R. W. Brewer

All of us have probably crashed our computer or suffered from total lockup because of some problem that we have had. Some of us may even have had the disheartening experience of a power failure when we were right in the middle of a long document that had not yet been saved. All it takes is one good zap and then you have nothing. This "nothing" that is left is but a tiny example of the possible results of an electro-magnetic compatibility problem. Electronic equipment manufacturers spend hundreds of millions of dollars each year trying to produce compatible equipment that meets its required interference specifications.

Most computer users are aware that the Federal Communications Comission (FCC) places limits on the levels of both power line conducted emissions and the radiated interference emissions that computer systems are allowed to generate. These levels are specified in FCC Rules and Regulations, Part 15J, which separates computers into two classes, A and B, depending on their use. Class A covers commercial equipment while Class B covers consumer equipment, i.e. equipment used in a home or residential environment.

The purpose of the FCC requirements is to prevent computer devices from jamming the public radio/TV services. The FCC rules and regulations do not guarantee that your computer system will NOT create interference and...in addition, the FCC doesn't care if your system is interfered with or even destroyed by other interference sources, so long as those sources do not jam the public radio/TV services. If your computer system is FCC approved, which you can tell from the label on the back, and it becomes a source of interference to your neighborhood public radio/TV service or if it is being interfered with by some source, it is your problem and not that of the manufacturers. They did their job by designing the units to meet the requirements. What happens to you the user? The least the FCC will do to a user is simply shut them down, however they do have the authority to FINE you.

Most users are not interference control specialists, they have never heard of electro-magnetic compatibility (EMC), and as a result, they usually don't understand what can be done with their equipment to solve an interference problem... It turns out, in fact, that there are not a lot of things that can be done externally to a system to minimize interference. In most operational computer systems, interference problems can be reduced to the following four cases: Power Line Emission; Radiated Emission;

Power Line Susceptibility; and Radiated Susceptibility. These terms refer to the entry or exit of the interference and the path that the interference takes. The following paragraphs won't make you into an expert but they do provide an approach to solving interference problems using some simple techniques that are easily accomplished.

Power Line Emission - If interference from your system is causing the upset or malfunction of some other nearby electronic equipment, usually a radio or TV set, but sometimes an audio or video sytem, first simply turn over the power cord wall plug. If this doesn't help, the system will probably require a power line filter. A simple filter in the form of a series inductor can be constructed by wrapping the power line around a large pencil, large wooden dowel, or large metal bolt. The metal bolt would be better. Use tape etc. to keep the cord wrapped and in place. If this reduces but doesn't cure the problem, then the equipment probably needs a filter with better insertion loss characteristics. These can be purchased from your electronics dealer. Sometimes however, the problem may be a result of simultaneous power line and radiated emission. Thus if a filter doesn't cure the problem, apply the fix for radiated emission.

Radiated Emission - If radiated interference from your system is causing the upset or malfunction of some other electronic equipment, similar to or combined with power line emission above, first move the computer system furthur away from the victim equipment. If the equipment items can't be separated enough to solve the problem, then shorten all cables (system, printer, CRT) as much as possible by folding them back and forth into a small bundle and hold the bundle together with tape or a rubber band. Next place the computer system on the end of a full-width sheet of aluminum foil that is long enough to reach over the back of your desk to the computer's power outlet. This foil can be hidden under your desk pad. Fold the power outlet end of the foil into a point and connect the point to the grounded screw in the center of the outlet cover using a short piece of insulated wire (stripped on each end). If your system is located on a plastic covered metal desk top, ground the top, instead of using the foil. Finally, if there is still a problem, wrap aluminum foil shields over all cables and connect (ground) them to the foil sheet under your computer. Sometimes the addition of the power line filter recommended above for power line emission will help. Keep in mind that it is very difficult to make a soldered connection to aluminum foil. Fortunately, mechanical connections made by tightly folding the materials together are usually adequate.

Power Line Susceptibility - If your system is being interfered with by transients on the power line, i.e. loss of data during lightning flashes, or whenever the refrigerator turns on... First construct the simple filter as indicated above for power line emissions and then install a transient suppressor made from three MOV devices (made for this purpose) connected across the power

input. The installation of these devices is as follows: first turn off the power to the computer power outlet and remove the cover and the duplex outlet from its wall box. Then loosen the screws holding or associated with the power and ground wires and install one MOV device from the black power line to the white power line and one each from both the black and the white power leads to the green safety ground. NOTE: LETHAL VOLTAGES EXIST ACROSS THE POWER LEADS, SO TURN "OFF" THE POWER AND BE CAREFUL WITH THIS INSTALLATION. IF YOU ARE UNSURE OF YOUR ABILITY TO DO THIS INSTALLATION... DO NOT ATTEMPT IT. In the interest of safety, you may wish to purchase a transient suppression assembly from your electronics dealer. Many dealers have complete assemblies which combine both transient protectors and power line filters.

Radiated Susceptibility - If YOUR system is being interfered with by transient occurrences i.e. loss of data during lightning flashes, or whenever the refrigerator turns on, or by broadband or narrowband RF emissions created by your neighbor next door as he operates his equipment, first construct a simple filter as indicated above for power line emission and then install the aluminum foil and connect it to the power outlet ground screw as indicated above for radiated emission control. If on the otherhand it is electrostatic charge buildup that is zapping your computer, a common winter time problem, do not make a direct connection from the screw to the foil. This connection should be made using a 100,000

ohm resistor in series with the connection to limit the static discharge's current surge. If all the above conditions exist, place a 200pf capacitor in parallel with the resistor.

The science of EMC has an element of "Black Magic" associated with it. Sometimes it is not possible to get all the "evil spirits" exorcised from a computer system, consequently the above techniques may not completely solve your problem. They should however, help prevent computer systems crashes, and keep the FCC "Bread Truck" as well as your children, spouse, and neighbors from stopping in front of your place to demand that you "turn that thing off".

Abes Aces

Allentown Bethlehem Easton's Atari Computer Enthusiasts is an independent user group organized and run by owners of Atari Computers. Atari is a trademark of Atari Corp.; all references should be so noted.

If you would like more information about ABE's ACEs, write us at the club's address or call the club HOTLINE at the number listed on this page.

This newsletter is published by ABE's ACEs on a bi-monthly basis (six issues per year). Opinions expressed in this newsletter are those of the author and not ABE's ACEs. All unsigned articles should be attributed to the Editor. This newsletter is provided free to our membership and on an exchange basis to other user groups. Original articles from our newsletter may be reprinted in other newsletters, provided credit be given to both author and source.

Submissions to the newsletter may be made via the club's BBS, via mail, or at the general meetings.

Club Numbers

Help Key II BBS:
Direct Line————— (215) 759-2683
Call Forwarding——— (215) 821-9222

Hotline (Voice)————————— (215) 759-3336

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8-Bit Disk Duplication————————John Douglas
16-Bit Disks————————Chris Andrews

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